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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/664,539	09/18/2000	Rainer Autenrieth	225/49232	4557

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CROWELL & MORING, LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300

EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/664,539

Applicant(s)

45242

Examiner

Alexis Wachtel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 18 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

**Detailed Action**

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(a) as being anticipated by US 6,641,795 B2 to Abe.

Abe teaches a reactor system for reacting a hydrocarbon or hydrocarbon derivative charging material, comprising:

Per claim 1: a catalyst-coated reaction chamber (Fig.1, item 11) having a reaction chamber inlet (15) for feeding a reaction educt stream into said reaction chamber; and an electric heater (10) formed by a catalyst-coated, reaction educt stream permeable electrical heater (Col 6, lines 43-50), through which the educts for reacting the charging material can be fed at least in a start operating phase of the reactor system; wherein the electrical heater is flat and is disposed on a level within the reaction chamber inlet; the electric heater at least partially covers a cross section of the reaction chamber inlet. Examiner notes that the heater occupies a cross section in the reactor system covering at least the cross section of the reaction inlet

Per claim 2: the reactor system, as claimed in claim 1, wherein the heater has a plurality of heating elements, which together cover the cross section of the reaction chamber inlet, at least partially (Col 7, lines 27-42). Examiner notes that the heater

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occupies a cross section in the reactor system covering at least the cross section of the reaction inlet

Per claim 3: Wherein the heater has a heating disk which completely covers the inlet cross section of the reaction chamber. Examiner notes that per Fig.1, heater (10) is in the form of a disk. Examiner notes that the heater occupies a cross section in the reactor system covering at least the cross section of the reaction inlet

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: US 6,641,795 B2 to Abe

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,641,795 B2 to Abe.

Abe teaches per claim 4 a reactor system for reacting a hydrocarbon or hydrocarbon derivative charging material, comprising: a catalyst-coated reaction chamber (Fig.1, item 11) having a reaction chamber inlet (15) for feeding a reaction educt stream into said reaction chamber, and an electrical heater that includes means for point-by-point injection of at least one reaction educt, heated in the heater, into the reaction chamber at least one place within the reaction chamber inlet cross section (Col 6, lines 43-50). Examiner notes the heater, when provided in the form of a porous structure provides means for point-by-point injection for the reaction educt(s).

Abe fails to teach that the electric heater is located in front of the reaction

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chamber inlet. However, it is plainly evident from Fig.1 that the heater (10) simply allows for the passage there through of reaction educt and into the catalyst coated reaction chamber (Fig.1, item 11). Having placed the heater just downstream, in the middle of or just upstream of the inlet is not seen to negatively impact or positively affect the performance of the reactor system. One of ordinary skill would have recognized that the specific placement of the heater in any area upstream of the catalyst-coated reaction chamber (Fig.1, item 11) is a simple matter of design choice. In the alternative, having placed the heater upstream of the reaction chamber inlet would have been obvious to one of ordinary skill at the time the invention was made. One of ordinary skill would have been motivated by the desire to improve accessibility to a damaged heater for the purpose of repair or replacement.

***Allowable Subject Matter***


4. Claims 5 and 6 are objected to as depending on rejected independent claims. The following is an examiner's statement of reasons for indicating allowable subject matter: The closest prior art to Abe fails to teach a reactor system that comprises a switchable reaction educt feed system with feed means which feed the reaction educt stream in a start operating mode into the reaction chamber only over one part of the inlet cross section and in normal operating into the reaction chamber over the entire inlet cross section. Abe employs the use of a heater (10) which occupies a cross section in the reactor system covering at least the cross section of the reaction inlet. As a result, all reaction educt passing through the reaction inlet will pass through the heater (10). Having used a switchable reaction educt feed system whereby a fraction of the

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total possible educt that can pass through the reaction inlet per unit time would have defeated the purpose of a heater (10) covering the complete cross section of the reaction inlet. In particular, the heater would not be used to its maximum capacity in heating a fraction of the reaction educt and would result in wasted energy being provided by the heater (10).

### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn Caldarola  
Supervisory Patent Examiner  
Technology Center 1700